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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/099,940	KAZUHIRO ISHIGURO	
	Examiner	Art Unit	
	MICHAEL BURLESON	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. US 5548415.

3. Regarding claim 1, Tanaka et al. teaches an image processing apparatus for correcting data of each pixel in an edge area, comprising: a first judgment unit for judging whether a target pixel is in a first edge area by comparing an output from a differential filter with a first reference value (column 5, lines 36-45; the comparator distinguishes between an edge and non-edge which acts as a differential filter); a second judgment unit for judging whether the target pixel is in a second edge area by comparing the output from a differential filter with a second reference value that is smaller than the first reference value (column 5, lines 46-54; the comparator distinguishes between an edge and non-edge which acts as a differential filter); a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area; and a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area (column 6, lines 1-65; based on

the type of image, which is determined by the characteristic judging circuit, that image signal is corrected. Since signals are corrected based on the type of edge signal, this reads on the first and second correction units).

4. Regarding claim 13, Tanaka et al. teaches an image processing method for correcting image data corresponding to an edge area, comprising steps of:
judging (a) whether a target pixel is in a first edge area by comparing an output from a differential filter with a first reference value(column 5, lines 36-45; the comparator distinguishes between an edge and non-edge which acts as a differential filter), and (b) whether the target pixel is in a second edge area by comparing the output from a differential filter with a second reference value that is smaller than the first reference value(column 5, lines 46-54; the comparator distinguishes between an edge and non-edge which acts as a differential filter); and conducting (a) first correction processing on data of the target pixel that is judged to be in the first edge area, and (b) second correction processing on the target pixel that is judged to be in the second edge area(column 6, lines 1-65; based on the type of image, which is determined by the characteristic judging circuit, that image signal is corrected. Since signals are corrected based on the type of edge signal, this reads on the first and second correction units).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 3,4 and 6-12 are rejected under 35 U.S.C. 103(a) as being obvious over Tanaka et al. US 5548415 in view of Sugawa US 5371610

3. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 2, Tanaka et al teaches all of the limitation of claim 1.

1. Tanaka et al fails to teach the first correction unit conducts correction processing on at least one of the plurality of color component data differently from the other color component data and the second correction unit conducts correction processing on all of the color component data in a same manner.

2. Sugawa teaches the first correction unit conducts correction processing on at least one of the plurality of color component data differently from the other color component data and the second correction unit conducts correction processing on all of the color component data in a same manner (column 5,lines 5-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's method is applied to a second correction processing on achromatic color component data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Sugawa in order to correct the achromatic data of the color image data.

Regarding claim 5, Sagawa teaches the first judgment unit and the second judgment unit shares the differential filter, the filter outputting intensity variations among pixels surrounding the target pixel ((251) column 4,lines 40-51).

3. Claims 3,4,6 and 7 are rejected under 35 U.S.C. 103(a) as being obvious over Tanaka et al. US 5548415 in view of Hirota US 5357353.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject

matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 3, Tanaka et al teaches all of the limitations of claim 1.

Tanaka et al fails to teach of the data includes chromatic color component data and achromatic color component data and the second correction unit conducts correction processing only on the achromatic color component data.

Hirota teaches of the data includes chromatic color component data and achromatic color component data and the second correction unit conducts correction processing only on the achromatic color component data (column 7,lines 39-64).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's method is applied to a second correction processing on achromatic color component data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Hirota in order to optimize the achromatic data of the color image data.

Regarding claim 4, Tanaka et al teaches all of the limitations of claim 1.

Tanaka et al fails to teach of the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Hirota teaches of a color correction processor (66), in which black data is generated from read density data (column 7,lines 5-12). He also teaches of decreasing and increasing black data (column 7,lines 35-65), which reads on the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's method is applied to a first correction processing of increasing or decreasing density data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Hirota in order to optimize the density data of the color image data.

Regarding claim 6, Tanaka et al teaches all of the limitations of claim 1.

Tanaka et al fails to teach of the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7,lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7,lines 46-67). This reads on the first judgment unit

further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's method is applied to a first judgment unit, which determines if a pixel is achromatic or chromatic. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Hirota in order to identify a target pixel and to accurately process a particular type of pixel.

Regarding claim 6, Tanaka et al teaches all of the limitations of claim 1.

Tanaka et al fails to teach of the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7,lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7,lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's method is applied to a first judgment unit, which determines if a pixel is achromatic or chromatic. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Hirota in order to identify a target pixel and to accurately process a particular type of pixel.

4. Regarding claim 7, Tanaka et al teaches of an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area(column 5, lines 36-45; the comparator distinguishes between an edge and non-edge which acts as a differential filter); a second judgment unit for judging whether the target pixel is in a second edge area by comparing the output from a differential filter with a second reference value that is smaller than the first reference value (column 5, lines 46-54; the comparator distinguishes between an edge and non-edge which acts as a differential filter); a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area; and a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area (column 6, lines 1-65; based on the type of image, which is determined by the characteristic judging circuit, that image signal is corrected. Since signals are corrected based on the type of edge signal, this reads on the first and second correction units).

5. Tanaka et al fails to teach of an image forming unit for forming an image based on the data corrected by the first correction unit and the second correction unit.

6. Hirota teaches of an image forming unit for forming an image based on the data corrected by the first correction unit and the second correction unit.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's apparatus is applied to the an image forming unit. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Hirota in order to form an image using corrected image data.

7. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. US 5548415 in view of Hirota US 5357353 as applied to claim 7 above, and further in view of Sugawa US 5371610.

Regarding claim 8, Tanaka et al in view of Hirota teaches all of the limitation of claim 1.

8. Tanaka et al fails to teach the first correction unit conducts correction processing on at least one of the plurality of color component data differently from the other color component data and the second correction unit conducts correction processing on all of the color component data in a same manner.

9. Sugawa teaches the first correction unit conducts correction processing on at least one of the plurality of color component data differently from the other color

component data and the second correction unit conducts correction processing on all of the color component data in a same manner (column 5,lines 5-60).

10. Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al wherein Tanaka et al's method is applied to a second correction processing on achromatic color component data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Tanaka et al by the teaching of Sugawa in order to correct the achromatic data of the color image data

Regarding claim 9, Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7,lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7,lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Regarding claim 10, Hirota teaches of a color correction processor (66), in which black data is generated from read density data (column 7,lines 5-12). He also teaches of decreasing and increasing black data (column 7,lines 35-65), which reads on the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Regarding claim 11, Sagawa teaches the first judgment unit and the second judgment unit shares the differential filter, the filter outputting intensity variations among pixels surrounding the target pixel ((251) column 4,lines 40-51).

Regarding claim 12, Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7,lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7,lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Conclusion

Any inquiry concerning this communication should be directed to Michael Burleson whose telephone number is (571) 272-7460 and fax number is (571) 273-7460. The examiner can normally be reached Monday thru Friday from 8:00 a.m. – 4:30p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Haskins can be reached at (571) 272-7406

Michael Burleson
Patent Examiner
Art Unit 2626

Mlb
March 31, 2008

/Twyler L. Haskins/

Supervisory Patent Examiner, Art Unit 2625